

REMARKS

Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested.

Claims 1-16 and 18 are pending in this application, claim 17 having been cancelled by the previous amendment without prejudice to the subject matter contained therein.

Rejections under 35 U.S.C. § 101

Claims 1-16 and 18 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicants respectfully traverse this rejection for the reasons detailed below.

Initially, Applicants respectfully request the Examiner to reconsider this rejection based on current law. For example, on page 3 of the current Office Action the Examiner relies on the Federal Circuits' *Bilski* decision. However, this decision was **overruled** by the Supreme Court of the United States (SCOTUS) as discussed below.

As the Examiner is likely aware, the United States Supreme Court (SCOTUS) recently issued a decision in *Bilski v. Kappos* which addresses the test for patent-eligible processes within the meaning of 35 U.S.C. § 101. The decision in *Bilski* overruled the Court of Appeals for the Federal Circuit (CAFC) regarding the machine or transformation test being the sole test for determining statutory subject matter under 35 U.S.C. § 101. In overruling the CAFC, the SCOTUS stated:

Section 101 specifies four independent categories of inventions or discoveries that are patent eligible: “process[es],” “machin[es],” “manufactur[es],” and “composition[s] of matter.” “In choosing such expansive terms, . . . Congress plainly contemplated that the patent laws would be given wide scope,” *Diamond v. Chakrabarty*, 447 U. S. 303, 308, in order to ensure that “ ‘ingenuity should receive a liberal encouragement,’ ” *id.*, at 308–309. This Court’s precedents provide three specific exceptions to §101’s broad principles: “laws of nature, physical phenomena, and abstract ideas.” *Id.*, at 309.

Clearly claim 1 is not a law of nature or a physical phenomenon. The Applicants assert that claim 1 is not an abstract idea as well. However, assuming *arguendo* that the Examiner would assert that claim 1 is an abstract idea, Applicants assert the following. The SCOTUS, in *Bilski v. Kappos*, states the machine or transformation test “may be a useful and important clue or investigative tool” in determining statutory subject matter under 35 U.S.C. § 101. The machine or transformation test as set forth by the Supreme Court in *Diamond v. Diehr*, 450 U.S. 175 (1981), asserts that “[a] claimed process is surely patent-eligible under § 101 if (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.

Claim 1 recites:

A method for a clinical study, in which an occurrence of an event during the study elicits collaboration between responsible study personnel, the collaboration being an exchange of at least one of opinions, agreements, knowledge and findings, the exchange being at least one of written, verbal and electronic, the method comprising:

receiving the event at a collaboration system, *the collaboration system being at least one of an electronic data processing system and a communications system;*

identifying, via the collaboration system and on the basis of parameters assigned to the event, a group of responsible study personnel needed for the collaboration;

providing, via the collaboration system, a communications platform for the group to undertake the collaboration; and

checking, via the collaboration system, the collaboration on the basis of verification criteria.

As the Examiner will appreciate, claim 1 is indeed tied to a particular machine or apparatus namely "*the collaboration system being at least one of an electronic data processing system and a communications system.*" Therefore, the method of claim 1 is statutory subject matter eligible. Claims 2-16 are statutory at least for being dependent upon a statutory base claim.

As stated above, claim 1 is not a law of nature or a physical phenomenon. The Applicants assert that claim 1 is not an abstract idea as well. On December 8, 2010, the Federal Circuit decided *Research Corp. Technologies, Inc. v. Microsoft Corp.*, Fed. Cir., No. 2010-1037, 12/8/10, in which the Federal Circuit provides guidance with regard to method claims and an abstract ideas.

In this case, the subject matter is a "process" for rendering a halftone image. As a process, the subject matter qualifies under both the categorical language of section 101 and the process definition in section 100. Therefore, this court proceeds to examine the Supreme Court's three exceptions. The parties do not dispute, and this court agrees, that the inventors do not purport to have invented laws of nature or physical phenomena. Therefore, this court turns to abstractness. Indeed, the Supreme Court in *Bilski* refocused this court's inquiry into processes on the question of whether the subject matter of the invention is abstract. **The Supreme Court did not presume to provide a rigid formula or definition for abstractness.** See, e.g., *Bilski*, 130 S.Ct. at 3236 (The Court has "never provide[d] a satisfying account of what constitutes an unpatentable abstract idea." (Stevens, J., concurring)). Instead, the Supreme Court invited this court to

develop “other limiting criteria that further the purposes of the Patent Act and are not inconsistent with its text.” *Id.* at 3231.

With that guidance, **this court also will not presume to define “abstract” beyond the recognition that this disqualifying characteristic should exhibit itself so manifestly as to override the broad statutory categories of eligible subject matter and the statutory context that directs primary attention on the patentability criteria of the rest of the Patent Act.** In that context, this court perceives nothing abstract in the subject matter of the processes claimed in the '310 and '228 patents. The '310 and '228 patents claim methods (statutory “processes”) for rendering a halftone image of a digital image by comparing, pixel by pixel, the digital image against a blue noise mask. **The invention presents functional and palpable applications in the field of computer technology. These inventions address “a need in the art for a method of and apparatus for the halftone rendering of gray scale images in which a digital data processor is utilized in a simple and precise manner to accomplish the halftone rendering.” '310 patent col.3 ll.33-40. The fact that some claims in the '310 and '228 patents require a “high contrast film,” “a film printer,” “a memory,” and “printer and display devices” also confirm this court’s holding that the invention is not abstract. Indeed, this court notes that inventions with specific applications or improvements to technologies in the marketplace are not likely to be so abstract that they override the statutory language and framework of the Patent Act.**

This court also observes that the claimed methods incorporate algorithms and formulas that control the masks and halftoning. These algorithms and formulas, even though admittedly a significant part of the claimed combination, do not bring this invention **even close to abstractness that would override the statutory categories and context.** The Supreme Court has already made abundantly clear that inventions incorporating and relying upon even “a well known mathematical equation” do not lose eligibility because “several steps of the process [use that] mathematical equation.” *Diehr*, 450 U.S. at 185. Indeed, the Supreme Court counseled in determining the eligibility of respondents’ claimed process for patent protection under section 101, their claims must be considered as a whole. It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis. This is particularly true in a process claim because a new combination of steps may be patentable even though all the constituents of the combination were well known and in common

use before the combination was made. *Id.* at 188. Borrowing from the reasoning of the Supreme Court in *Diehr*, **this court observes that the patentees here “do not seek to patent a mathematical formula. Instead, they seek patent protection for a process of”** halftoning in computer applications. *Id.* at 187. Moreover, **because the inventions claimed in the '310 and '228 patents are directed to patent-eligible subject matter, the process claims at issue, which claim aspects and applications of the same subject matter, are also patent eligible.**

In the context of the statute, this court notes that an invention which is not so manifestly abstract as to over-ride the statutory language of section 101 may nonetheless lack sufficient concrete disclosure to warrant a patent. In section 112, the Patent Act provides powerful tools to weed out claims that may present a vague or indefinite disclosure of the invention. Thus, **a patent that presents a process sufficient to pass the coarse eligibility filter** may nonetheless be invalid as indefinite because the invention would “not provide sufficient particularity and clarity to inform skilled artisans of the bounds of the claim.” *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1371 (Fed. Cir. 2008). That same subject matter might also be so conceptual that the written description does not enable a person of ordinary skill in the art to replicate the process.

Emphasis added.

Clearly claim 1 is not an abstract idea at least because claim 1 **does not exhibit itself** so manifestly as to override the broad statutory categories of eligible subject matter and the statutory context that directs primary attention on the patentability criteria of the rest of the Patent Act. Further, Claim 1 **presents functional and palpable applications** in the field of clinical studies using a collaboration system which is one of an electronic data processing system and a communications system.

Therefore, the method of claim 1 is statutory subject matter eligible. Claims 2-18 are patentable at least by virtue of their dependency from claim 1.

The Applicants, therefore, respectfully request reconsideration and withdrawal of the rejection to claims 1-18 under 35 U.S.C. § 101.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 4, 5, 7-9, 13, 15, 16, 17 and 18 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by US Patent Publication No. 2002/0154010 to Tu et al. ("Tu"). Applicants respectfully traverse this rejection for the reasons detailed below.

The Examiner asserts that the message bus shown in Tu FIG. 1 discloses "providing, via the collaboration system, a communications platform for the group to undertake the collaboration," as recited in claim 1. Applicants respectfully disagree.

Tu does not teach or fairly suggest "providing, via the collaboration system, a communications platform for the group to undertake the collaboration," where "the **collaboration** being an exchange of at least one of opinions, agreements, knowledge and findings, the exchange being at least one of written, verbal and electronic," as required by claim 1. By contrast Tu teaches a system interconnecting bus to enable event **detection and notification**.

The Examiner asserts that Tu paragraph [0124] discloses "checking, via the collaboration system, the collaboration on the basis of verification criteria," as recited in claim 1. Applicants respectfully disagree.

Paragraph [0124] of Tu describes a followed-by paired event type. A followed-by paired event type is two events where the second event follows a

first event. Prior to starting the second event, a match determination is made to determine if the second event is associated with the first event. If the second event matches, the second event starts. If the second event does not match, the second event is discarded. A persist flag is set based on this match and the Examiner relies on a checking of this persist flag to teach the aforementioned feature.

Clearly, a checking of a persist flag does not teach or fairly suggest “**checking**, via the collaboration system, **the collaboration** on the basis of verification criteria,” where “the collaboration being an exchange of at least one of opinions, agreements, knowledge and findings, the exchange being at least one of written, verbal and electronic,” as required by claim 1. By contrast, Tu teaches the **monitoring of time-relevant criteria** that can lead to triggering an event.

The above discussion of Tu is consistent with the discussion presented in the Applicants response dated July 23, 2010. In response to the above discussion the Examiner states:

[The] Examiner would like to point out to the applicant the Tu [sic] does teach about *communications platform for the group to undertake the collaboration*. (By disclosing, **the message bus 110 connects other entities within or associated with the business such as users of a business enterprise system (e.g., business employees) to the event detection and notification system**, the adapter 102 may obtain data provided by these entities via the message bus 110. It is also contemplated that the data may be obtained or received from a source outside the business, such as via the internet. See at least paragraph [0060] and Tu also disclose [sic] notification media could be phone. See at least paragraph [0139]). See current Office Action page 14. *Emphasis original*.

Applicants respectfully disagree.

Paragraph [0060] of Tu states:

As shown in FIG. 1, the adapter 102 can obtain data from a variety of sources. For instance, as shown, the adapter 102 may retrieve data from one or more databases 104, 106. These databases 104, 106 may support a variety of protocols and therefore need not support the same protocol or database vendors. As a result, data may be acquired from a variety of sources and for a variety of purposes. As one example, the data may include data obtained from a source external to the business, such as customer data obtained at least in part from one or more customers. As another example, the data may be data generated internally such as the data stored for accounting purposes. In addition, **the adapter 102 may obtain data 108 from a message bus 110.** The adapter 102 operates in real-time or on a schedule to obtain data as well as modify the data received and/or obtained by the adapter 102. Although the adapter 102 may be connected directly to various components that enable event detection and notification, a message bus is preferred, since this facilitates and simplifies the addition and removal of components. **In addition, since the message bus 110 connects other entities within or associated with the business such as users of a business enterprise system (e.g., business employees) to the event detection and notification system, the adapter 102 may obtain data provided by these entities via the message bus 110.** It is also contemplated that the data may be obtained or received from a source outside the business, such as via the Internet. *Emphasis added.*

At most paragraph [0060] discloses an adapter that receives event notifications from other entities. This is not collaboration as claimed.

Paragraph [0139] of Tu states:

For each notification recipient, the appropriate notification preferences are applied. As described above, each notification recipient may have an associated set of notification preferences. Thus, the appropriate notification medium (i.e., notification channel) is determined at block 3040. Thus, depending upon the specified notification medium, the notification message may be sent via a variety of communication mechanisms. For example, as shown, a notification message may be sent via electronic mail 3042, alpha numeric pager 3044, or numeric pager 3046. However,

these **notification mediums** are merely illustrative. For example, other suitable mediums (e.g., phone, cell phone) may be used. *Emphasis added.*

At most paragraph [0139] discloses different notification mediums.

Paragraph 60 of Tu discloses that adapter 102 receives and modifies data from a plurality of external sources 104/106 as well as via the message bus 110 from the sources connected thereto. However, paragraph [0061] of Tu states:

Once data is obtained by the adapter 102, at least a portion of the data is flagged (e.g., labeled, marked or indexed) to identify one or more business events of interest to the business. In this manner, the data is given meaning within a particular business context. An exemplary diagram illustrating data that is flagged to identify business events of interest to a business will be shown and described in further detail below with reference to FIG. 2. **The flagged data is then provided by the adapter 102 for access by other components.** More particularly, the flagged data may be transmitted via the message bus 110. For instance, as described above, other components that enable detection and notification of various events or states of events may access the modified data via the message bus 110. In this manner, the business events identified by the modified data may be monitored and detected. *Emphasis added.*

According to paragraph [0061], the function of the adapter 102 in this case is to mark the selected information and to disseminate it further via the message bus. Further, paragraph [0066] of Tu states:

The following example serves to illustrate the interaction of the adapter 102, the agent 118, the exception server 122, and the notification server 126. For example, consider the situation of a fire in a plant. In accordance with one embodiment, **the adapter 102 captures data from an alarm system, which indicates the existence of the fire and possibly the building and/or specific location of the fire.** The adapter 102 then publishes this event (e.g., "fire in Plant A"). An agent 118 that is watching for the publication of that event for Plant A detects the event when it occurs and publishes an occurrence of an exception. The exception server 122 subscribes to the exception event, logs it

and further invokes the notification server 126 to notify the appropriate users 128 that the exception has occurred. *Emphasis added*

According to paragraph [0066] of Tu, the aforementioned data are used to **monitor** the occurrence of special events or circumstances. In other words, if an event (e.g., existence of the fire) is detected, then **a message** is triggered.

Still further, paragraph [0063] of Tu states:

The modified data identifying one or more business events 116 are then obtained or intercepted by an agent 118. For instance, data that is published by an adapter 102 on a message bus such as the message bus 110 may be received by one or more agents 118 listening for events or specific events. Thus, the modified data is preferably sent in a format that is understandable by the agent 118. The agent 118 is adapted for detecting the events or monitoring the events such that an exception 120 (or notification) is generated when appropriate. More particularly, the agent 118 may monitor the events to detect various conditions as well as specific events. When one or more conditions are satisfied, the agent 118 may either wish to send a notification of the condition with respect to the event or generate an exception. A notification is sent merely to notify the recipient of the satisfaction of one or more conditions or states of specified business events. However, in addition to this information, an exception further enables the collaboration necessary to act on those events by multiple entities. In addition, an exception preferably enables the tracking and resolution of the exception. **For instance, the exception may indicate one or more entities that are to be assigned the exception. In other words, one or more entities are given the responsibility to resolve the exception, while a notification may merely serve to notify an individual of the exception. In this manner, multiple entities may collaborate to resolve an issue. These entities may be individuals or groups of individuals, such as a department within a business.** In summary, exception(s) 120 or notification(s) generated by the agent 118 may indicate a variety of circumstances requiring further action or attention by another component in the system. Similarly, the exception(s) 120 or notification(s) generated by the agent 118 may indicate circumstances requiring human intervention.

According to paragraph [0063] of Tu, an occurrence of an event can **necessitate a collaboration** between different units. However, Tu et al. does not describe the manner in which this collaboration occurs. Still further, the collaboration in Tu is secondary to the disclosure of Tu. Therefore, Tu does not describe a collaboration mechanism or system. Further, the message bus 110 and the communication server 126, as disclosed by Tu, are responsible only for the **communicating the event to trigger a collaboration**. However, the message bus 110 and the communication server 126, as disclosed by Tu, are not used whatsoever for **the subsequent collaboration**.

The Examiner's interpretation that the message bus 110 as disclosed by Tu would be used of collaboration of this type represents a retrospective view, based on knowledge of the subject specification. Tu et al. does not propose or even remotely suggest such a thing because this document does not relate collaboration other than a secondary consideration. Tu relates to problems during the discovery of an extraordinary event and not with the problems dealing with the collaboration that follows the event.

Absent any support found in the prior art, *the Examiner must have recognized such an advantage based on Applicants' Specification*. Doing so is improper hindsight reconstruction. Because the Examiner has improperly reconstructed the data input buffer of claim 1 in hindsight, the current rejection is improper and should be withdrawn.

For at least the aforementioned reasons, Tu does not teach or fairly suggest each and every limitation of claim 1. Because Tu does not teach or fairly suggest each and every limitation of claim 1, Tu does not anticipate or

render claim 1 obvious. Claims 2, 4-5, 7-9, 13 and 15-16 are patentable at least by virtue of their dependency from claim 1.

The Applicants, therefore, respectfully request reconsideration and withdrawal of the rejection to claims 1, 2, 4, 5, 7-9, 13, 15, 16 and 18 under 35 U.S.C. § 102(b).

Rejections under 35 U.S.C. § 103

Tu/Wagner/Schmidt/Horstmann

Claims 3, 12 and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tu in view of US Patent No. 6,092,102 to Wagner ("Wagner").

Claim 6 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tu in view of US Patent No. 6,839,678 B1 to Schmidt et al. ("Schmidt").

Claims 10-11 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tu in view of US 2005/0055241 to Horstmann ("Horstmann").

Applicants respectfully traverse these rejections in that even assuming *arguendo* that Wagner, Schmidt and/or Horstmann could be combined with Tu (which Applicants do not admit), the combination of references fails to render even claim 1 obvious because Wagner, Schmidt and Horstmann suffer from at least the same deficiencies as Tu with respect to claim 1. Therefore, even in combination, Tu in view of Wagner, Schmidt and/or Horstmann fails to render

claims 3, 6, 10-12 and 14 obvious because claims 3, 6, 10-12 and 14 depend from claim 1. Withdrawal of these rejections is requested.

CONCLUSION

In view of the above remarks and amendments, the Applicants respectfully submit that each of the pending objections and rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By


Donald J. Daley, Reg. No. 34,313

P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000


DJD/EPs:lfb

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